CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH
GILES S. PORTER, M.D., Director

Weekly Bulletin

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Meat Is a Valuable Food

A radio talk by GEORGE PARRISH, M.D., City Health Officer, Los Angeles.

We have no evidence that the eating of meat by persons who are well is in any way harmful; in fact there are so many ways in which meat serves the nutritive requirements of the body, not only in health but also in convalescence and in many conditions of sickness, that it may very properly be considered a protective food. Under proper dietary conditions, meat may prevent or cure anemia, pellagra, rickets, beri-beri, and scurvy. Properly used it may build back to health, strength and happiness one who has for months, even years, been run down, bedraggled and weak.

One of Nature's ways of indicating what is proper to eat is through the appetite. One of the strongest of human appetites is the liking for meat. No other food contributes so much to the palatability of the diet. So long as the human appetite remains as it is now and has always been we shall eat meat. It is therefore important that everyone understand its nutritive value, and its proper place in the diet. In general terms the human body is composed of protein, carbo-hydrates, fat, mineral substances and water. Meat is composed of the same components. In fact, some tribes of Eskimos live on meat alone. The Lapps and the Icelanders and some tribes of American Indians have lived and do live almost exclusively on animal food. As a complete diet, however, meat is deficient in calcium. Otherwise, it serves all the requirements of the mature human being as a food. To make good the deficiency of calcium, all carnivorous or meat eating animals eat bone, and savage mankind has done the same thing. They either pound the bone to a powder or cook the bone until it becomes soft.

There are reasons, however, why it is not practical for mankind in general to live on meat alone; it takes a well balanced diet of lean meat, fats and vegetables to meet the requirements of man. Again, it is doubtful if the world could produce meat enough to maintains its present population if all lived on meat alone.

Considering beef as a typical meat—beef contains 19½ per cent of protein, 13 per cent of fat and 67½ per cent of water and mineral. Meat also contains several of the vitamins. Among the several classes of foods, proteins hold a position of commanding importance and meat is especially a protein food. All active body cells contain protein as a prominent constituent. In a sense only protein lives; other components of the body serve as energy producing foods or as substances that support the living protein structures. Meat is Nature's own principal source of food protein for human beings who are beyond the age of weaning. Proteins are substances that form the characteristic constituents of the tissues and the fluids of the animal body.

In the assimilation of meat protein there is less waste, in general, than in the use of vegetable protein because meat protein is better balanced—that is, it is more nearly like the human body protein. McCullum, the great authority on diet, and his associates have

found that meat is superior to any other food for making good the deficiencies of the proteins in barley, peas, navy beans, rye, maize, wheat, rolled oats, and potatoes. Meat is particularly good as a nourishment of the blood. Heart and liver seem to be be superior even to muscle for restoring the blood to normal when one is suffering from anemia.

The fats of meats have about the same nutritive value as the bulk of the vegetable foods. They are about 2¼ times as valuable as starch and sugar—for the same purposes; to wit: the production of heat, energy and fat in the body. The mineral substances of meat have about the same values as the mineral substances contained in vegetables, but meat is notable for its contribution of iron, while vegetables and fruits exceed meat in the contribution of calcium. Both classes of food contain phosphorus in considerable amounts. The vitamins are present in the heart, liver, kidneys, brain and sweetbreads in moderate abundance; the muscle meats also contain all the well known vitamins, but in small quantities. Fruits and vegetables, as ordinarily present in the daily diet, contain the additional amounts of vitamins necessary to maintain health. Vegetable foods also combine advantageously with a meat diet by reason of the fact they form a bulk and because of the starch and sugar they contribute.

Bulk is needed to give the sense of fullness which is necessary to a sense of satisfaction—this feeling keeps us from overstuffing. The mineral salts and the indigestible cellulose assist in preventing constipation. Starch and sugar also have a large place in diet, sugar in particular because of its palatability. For these reasons we do not try to live on meat alone. The best that we know of food, from a combined and economic point of view, favors a mixed diet of animal and vegetable foods based upon meat.

Man's natural diet is safe and efficient. The diets which lead us into trouble are those which depart in important ways from the type to which we are naturally adjusted. As a matter of practical dietetics the fact that we like meat is important. This desire for meat, this liking, has an important bearing in that it incites the stomach to secrete the gastric juices of higher acidity and digestive power than is induced by the eating of other foods. This increased flow of the juices helps the body to take care of food. Meat also gives to the body a feeling of physical well being which makes meat an essential in the diet of men who labor.

Meat in the diet has a certain value in connection with the development of the teeth. Children often suffer from lack of development of the jaw bones and their alveolar processes of the jaw are involved, so that the teeth come through crowded, projecting or crooked. This is due in part, to the fact that they are reared exclusively on soft foods.

It is not easy to say definitely what the proportion of meat should be in a diet. Some people eat a great deal and always feel well and strong; others eat considerably less and they, too, feel fine. In a large measure, common sense must be the guide of each individual. Meat is unquestionably an article of diet quite superior in its nutritive value. It is especially valuable for its proteins and its iron and for these reasons, common sense tells us that it is almost indispensable as a food. When sifted down there are few, if any, genuine vegetarians. The alleged vegetarians all eat eggs and drink milk and it is these combinations that keep them going. The man with heavy work to perform does it on meat. The meat gives him strength and stamina and he performs his daily work in a most satisfactory manner. The sedentary man, the office man, he who does little manual labor, on the other hand, usually believes that he should eliminate meat altogether from his diet and live on cereals and vegetables. He is wrong. No idea could be more erroneous. While in the laborer there is a greater need of meat than under the lighter work, nevertheless, the breakdown of tissue continues under all conditions and the proteins of the body cells must be replaced.

Animal proteins are complete proteins; vegetable proteins as a rule are not. Cereals are largely fuel foods, their proteins are not complete. It is therefore essential that the man doing light work, while cutting down the total food intake, should include a liberal proportion of animal food—meat—in his daily ration.

DR. CHURCH RETURNS TO CONTRA COSTA

Dr. I. O. Church, who has been, for the past year, engaged in special study at the Johns Hopkins University School of Public Health has returned to Martinez to again assume his duties as Health Officer of Contra Costa County. Dr. Church has served as the health officer of this county ever since it became organized on a full-time basis of service. During the absence of Dr. Church, Dr. Paul G. Capps served in his stead.

The wish to be cured is of itself an advance to health.—*Seneca.*

In all things relating to disease, credulity remains a permanent fact uninfluenced by civilization or education.—*Osler.*

THE ABATEMENT OF CROSS-CONNECTIONS

Cross-connections in public water supplies are illegal. They are often difficult to find because they are always made surreptitiously. They constitute a decided menace to the provision of potable public water supplies and constant effort is necessary in order that they may be discovered and abated promptly. The San Diego City Health Department, of which Dr. A. M. Lesem is Health Officer, is particularly active in the safeguarding of the city water supply. In his annual report for the year 1930 the Health Officer makes the following interesting observations on cross-connections that were discovered after careful sampling of water as delivered in neighborhood communities:

The water in San Diego is carefully guarded and, by reason of this fact, we have found some interesting installations. Samples of water taken in a certain district showed *B. coli*, five out of five, in 10cc. We sampled all around this point and soon had the condition localized. We then went into said district and investigated every possible source where contamination might occur. At one point where the count was five out of five in 10cc., we found a cooling table for water that was being used over and over and also a line from the city water to the pan into which the water from the table was falling.

This line was controlled by a ball cock with submerged spout and when the pressure in said line was lowered, naturally water from this table and pan would siphon back into the line from the city main. This table is on the roof of a three-story building close to the water front. It is open and uncovered, and seagulls are numerous at this point. The bay, being used as it is, receiving the untreated sewage from the city, the possibility may readily be seen of contamination from sewage to bay, and said contamination brought by seagulls to water supply. We had this system altered so that there is now no chance of pollution.

We then checked up on some fish markets and found that they were pumping water from the bay at high tide. This water was used for cooling engines, for washing fish, washing floors, etc. The systems in use would not furnish water at low tide, consequently city water had to be used, and in order to accomplish this a cross-connection was made.

The water pumped from the bay to supply the needs of different establishments at low tide was being pumped against either a gate valve or a globe valve. It can readily be seen what the results would be if the valves were not securely closed, or if the seats were defective. To overcome this condition, we had the people responsible disconnect all lines from the bay and place them in a system alone.

After all the cross-connections were eliminated, we closed all valves at the meters, and thoroughly flushed all lines by opening fire hydrants and specially installed blow-off valves at the end of the lines. We then shut off this section of the system, meter valves still being closed, and tapped the main at upper end of section under treatment and connected a portable chlorinating outfit to it and charged the line heavily with chlorine. Since that time, we have had no trouble with the water at that point.

There are many installations in every city that make cross-connection possible, but improbable. However, the time is right for some action to prohibit installations of this character.

HEALTH OFFICER APPOINTED

Dr. R. A. Whiffen of San Jose has been appointed City Health Officer of Willow Glen, a newly incorporated district near San Jose.

The public are wise enough to follow scientific men when they agree on any subject.—*Charles Darwin.*

LITTLE TYPHOID IN CALIFORNIA

Typhoid fever is not epidemic anywhere in California. There have been relatively few cases reported in the State since the first of the year and these were not reported in large groups but were scattered throughout the State. The status of typhoid fever in California, at the present time, is better than it has been for many years. None of the summer resort areas of the State are unsafe, at the present time, because of typhoid fever or any other disease.

Rumors that the disease is epidemic in the Russian River section are wholly unfounded. There has been but one case of the disease reported from that region and that case was in a rancher who contacted the disease last April. There is no basis for the rumor referred to and any reports that would indicate the presence of an epidemic of the disease, at the present time, anywhere in California are absolutely without foundation of fact.

SAN DIEGO STUDENT WINS STATE PRIZE IN GORGAS ESSAY CONTEST

The Gorgas Memorial Institute has announced the State winners in the third annual essay contest for high school students. Helen Dale of the Point Loma Junior College at San Diego has won the State prize of $20 for the second consecutive time. The winner of the national prize will be announced shortly. On June 26th, the winning individual will go to Washington to receive the prize of $500 from Dr. Cary T. Grayson, President of the Gorgas Memorial Institute.

SAN DIEGO ISSUES ANNUAL REPORT

Dr. A. M. Lesem, City Health Officer of San Diego, has issued the annual report of the San Diego Department of Public Health. The report is comprehensive and outlines a large amount of work in safeguarding the public health of the city. Standard procedures are followed and compatible results are obtained. The report is mimeographed and covers 40 pages.

MORBIDITY*

Diphtheria.

43 cases of diphtheria have been reported, as follows: Fresno County 1, Fresno 8, Brawley 1, Bakersfield 2, Los Angeles County 4, Alhambra 1, Glendale 1, Inglewood 1, Long Beach 1, Los Angeles 13, Monterey Park 1, Riverside 1, San Bernardino County 2, San Francisco 6.

Measles.

899 cases of measles have been reported, as follows: Alameda County 6, Alameda 10, Berkeley 89, Hayward 17, Oakland 89, Butte County 1, Chico 2, Contra Costa County 5, Fresno County 28, Fresno 30, Orland 2, Imperial 2, Los Angeles County 22, Burbank 1, Claremont 1, Glendale 21, Huntington

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*** From reports received on June 1st and 2d for the week ending May 30.**

Park 6, Inglewood 1, Long Beach 3, Los Angeles 93, San Fernando 1, Santa Monica 8, Sierra Madera 1, Whittier 1, Monterey Park 1, Maywood 1, Tujunga 1, Bell 6, Madera County 13, Madera 18, San Rafael 1, Gustine 1, Monterey County 4, Monterey 2, Pacific Grove 1, Salinas 9, Soledad 12, Riverside County 2, Riverside 16, Sacramento County 15, Sacramento 46, San Bernardino County 4, Chula Vista 2, El Cajon 1, San Diego 98, San Francisco 102, San Joaquin County 14, Stockton 2, San Luis Obispo County 16, Paso Robles 1, San Luis Obispo 1, San Mateo County 8, Daly City 1, San Bruno 13, Santa Barbara County 1, Santa Maria 18, Santa Clara County 2, Santa Cruz 1, Siskiyou County 2, Stanislaus County 13, Yolo County 11.

Encephalitis (Epidemic).

3 cases of epidemic encephalitis have been reported, as follows: Oakland 1, San Francisco 2.

Scarlet Fever.

103 cases of scarlet fever have been reported, as follows: Alameda County 2, Berkeley 2, Oakland 3, Colusa County 1, Fresno County 3, Fresno 1, Glenn County 1, Orland 1, Los Angeles County 16, Huntington Park 1, Long Beach 1, Los Angeles 36, Monrovia 1, South Gate 4, Maywood 1, Bell 1, Sacramento 2, Hollister 1, San Bernardino County 1, San Diego 1, San Francisco 6, San Joaquin County 1, Stockton 1, Santa Barbara 13, Santa Clara County 1, Watsonville 1.

Whooping Cough.

294 cases of whooping cough have been reported, as follows: Alameda County 4, Alameda 6, Berkeley 16, Hayward 3, Oakland 17, Butte County 2, Contra Costa County 2, Hercules 5, Pinole 7, Fresno County 9, Fresno 2, Humboldt County 1, Los Angeles County 17, El Segundo 10, Glendale 1, Huntington Park 4, Long Beach 1, Los Angeles 34, Pomona 5, San Fernando 2, San Marino 3, Santa Monica 3, Whittier 2, Bell 1, Madera 11, Monterey County 2, Monterey 2, Riverside County 1, Riverside 3, Sacramento County 12, Sacramento 12, Upland 1, San Diego 4, San Francisco 18, San Joaquin County 14, Stockton 9, San Luis Obispo County 6, San Mateo County 1, Daly City 2, Santa Barbara County 4, Santa Maria 1, Santa Clara County 1, Palo Alto 10, Watsonville 2, Stanislaus County 7, Yolo County 14.

Smallpox.

7 cases of smallpox have been reported, as follows: Alameda 1, Fresno County 1, Salinas 5.

Septic Sore Throat.

Glendale reported one case of septic sore throat.

Typhoid Fever.

6 cases of typhoid fever have been reported, as follows: Holtville 3, El Monte 1, Merced County 1, Modoc County 1.

Leprosy.

Los Angeles reported one case of leprosy.

Poliomyelitis.

3 cases of poliompelitis have been reported, as follows: Compton 1, Glendale 1, San Bernardino County 1.

Undulant Fever.

2 cases of undulant fever have been reported, as follows: San Jose 1, California** 1.

Food Poisoning.

Hayward reported one case of food poisoning.

** Cases charged to "California" represent patients ill before entering the State or those who contracted their illness traveling about the State throughout the incubation period of the disease. These cases are not chargeable to any one locality.

COMMUNICABLE DISEASE REPORTS

Disease	1931 Week ending May 9	May 16	May 23	Reports for week ending May 30 received by June 2	1930 Week ending May 10	May 17	May 24	Reports for week ending May 31 received by June 3
Botulism	0	3	0	0	0	0	0	0
Chickenpox	427	504	384	312	349	387	301	323
Coccidioidal Granuloma	0	1	1	0	0	1	1	0
Diphtheria	92	84	80	43	58	51	58	58
Dysentery (Amoebic)	0	7	0	2	1	0	3	0
Dysentery (Bacillary)	4	4	0	0	1	2	0	1
Encephalitis (Epidemic)	1	2	0	3	0	0	1	0
Erysipelas	18	18	17	22	13	17	8	6
Food Poisoning	0	7	45	1	0	4	3	3
German Measles	18	6	5	15	14	13	9	9
Gonococcus Infection	126	146	209	119	117	126	91	90
Hookworm	0	0	0	0	0	0	1	0
Influenza	57	53	36	33	22	30	10	18
Jaundice (Epidemic)	1	0	0	0	0	0	0	0
Leprosy	0	1	0	1	1	0	0	1
Malaria	0	0	0	1	2	2	2	0
Measles	1,371	1,198	1,126	899	2,214	2,181	2,293	1,977
Meningitis (Epidemic)	6	7	4	0	2	3	3	6
Mumps	319	292	254	246	744	714	683	576
Ophthalmia Neonatorum	0	0	2	0	0	0	0	1
Paratyphoid Fever	0	0	0	0	1	0	1	0
Pellagra	1	6	1	2	2	6	2	2
Pneumonia (Lobar)	54	40	32	13	50	53	45	33
Poliomyelitis	1	4	2	3	13	15	13	15
Rabies (Human)	0	1	1	0	0	0	0	0
Rabies (Animal)	24	21	30	20	11	18	13	9
Scarlet Fever	162	159	122	103	134	152	128	94
Smallpox	31	28	24	7	68	61	78	35
Syphilis	191	177	202	135	134	119	135	104
Tetanus	0	1	2	0	0	0	1	0
Trachoma	4	3	4	3	2	4	1	2
Trichinosis	0	0	1	0	2	0	0	2
Tuberculosis	228	224	180	153	236	237	237	227
Tularemia	0	0	0	0	0	0	0	2
Typhoid Fever	9	8	19	6	11	9	19	13
Undulant Fever	0	2	2	2	3	0	2	1
Whooping Cough	316	286	251	294	279	298	260	206
Septic Sore Throat	6	2	1	1	0	0	0	0
Totals	3,467	3,295	3,037	2,438	4,484	4,503	4,402	3,814

Health conditions, in general, are excellent at the present time.

The State is relatively free from epidemics of communicable diseases among human beings.

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